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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/080,991	02/22/2002	Deborah V. Hirst	50953	9977

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EXAMINER
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METZMAIER, DANIEL S

ART UNIT	PAPER NUMBER
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1712

DATE MAILED: 02/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/080,991

Applicant(s)

HIRST ET AL.

Examiner

Daniel S. Metzmaier

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 01 December 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,2,5 and 21-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,5 and 21-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 December 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

Claims 1-2, 5, and 21-23 are pending.

#### ***Drawings***

1. New corrected drawings in compliance with 37 CFR 1.121(d) are required in this application because said drawings are informal as they do not comply with 37 CFR 1.84(p)(3). Applicant is advised to employ the services of a competent patent draftsman outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

#### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

#### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of

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the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 1-2, 21, and 22 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Derwent Abstract, AN 1987-017861, JP-61275352. The Derwent Abstract (abstract) sets forth a solvent mixture for a polyamide reaction comprising 5-95% wt pts of lactone and 5-95% wt pts of an amide. The lactone is  $\gamma$ -caprolactone among others. The Derwent Abstract specifically mentions  $\gamma$ -caprolactone and an amide and therefore anticipates the claims. The concentrations of claims 2 and 22 are encompassed by the Derwent abstract and are thus anticipated and read thereon. Regarding claim 21, the Derwent Abstract specifically mentions N,N-dimethylacetoamide and N-2pyrrolidone and therefore anticipates the claim.

To the extent said limitations to the concentrations and species are not disclosed with sufficient specificity, It would have been obvious to one of ordinary skilled in the art at the time of applicants' invention to vary the concentrations and/or the particular species within the limited number of solvent species disclosed in the Derwent Abstract for their advantageous solvent properties as a reaction media and solvent system for polyamide resins.

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6. Claims 1-2, 5 and 21-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carano et al; US 5,985,040, in view Matson et al, US 4,824,443. Carano et al (Table B, columns 7 and 8) disclose the combination of butyrolactone (10-40% bv<sup>1</sup>) and N-methyl-2-pyrrolidone (90-60% bv). The claimed concentrations of 20% to 80% bv clearly read on the reference 10%-40% bv. Carano et al (abstract) discloses the compositions are useful in softening and removal of epoxy, polyimide, cyanate ester resins.

Carano et al differs from the claim compositions in the disclosed use of  $\gamma$ -butyrolactone rather than  $\gamma$ -caprolactone.

Matson et al (column 3, lines 26 et seq) discloses solvents, which swell polymers including lactams comprising pyrrolidone solvents and (column 4, lines 21-27) lactones including  $\gamma$ -butyrolactone and  $\epsilon$ -caprolactone.

It would have been obvious to one of ordinary skilled in the art at the time of applicants' invention to employ the structurally related  $\epsilon$ -caprolactone for the  $\gamma$ -butyrolactone employed in the Carano et al reference. The  $\gamma$ -butyrolactone differs only from of  $\epsilon$ -caprolactone in that  $\epsilon$ -caprolactone has methylene groups. Based on the structural similarity, the solvent compounds would have reasonably been expected behaves the same or substantially the same. Said compositions would have been expected to behave similarly. See MPEP 2144.09.

To the extent Carano et al differs from claims 5 or 23, Carano et al (abstract; column 2, lines 60-61; column 3, line 21; column 4, line 8; and claims 1, 10, 19, and 24)

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<sup>1</sup> The term "bv" denotes "by volume".

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discloses the use of N-(2-hydroxyethyl)-2-pyrrolidone as a functional equivalent to the  $\gamma$ -butyrolactone. The Carano et al reference (at least the abstract and claims) clearly contemplates mixtures of solvents selected from the group including N-(2-hydroxyethyl)-2-pyrrolidone and  $\gamma$ -butyrolactone. Matson et al (column 4, lines 21-27) discloses solvent lactones including  $\gamma$ -butyrolactone or  $\epsilon$ -caprolactone. It would have been obvious to one of ordinary skilled in the art at the time of applicants' invention to employ N-(2-hydroxyethyl)-2-pyrrolidone and  $\epsilon$ -caprolactone as a solvent combination in the solvent swell compositions of Carano et al as clearly suggested by Carano et al and Matson et al for their advantageous swelling properties.

Furthermore, Carano et al (column 1, lines 51 et seq) discloses smear removal solvents including propylene glycol ethers are known in the art for smear removal. It would have been obvious to one of ordinary skilled in the art at the time of applicants' invention to further employ art known solvents fro the advantage of smear removal in the desmear compositions disclosed in the Carano et al reference.

### ***Conclusion***

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not

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mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel S. Metzmaier whose telephone number is (571) 272-1089. The examiner can normally be reached on 9:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy P. Gulakowski can be reached on (571) 272-1302. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
**Daniel S. Metzmaier**  
**Primary Examiner**  
**Art Unit 1712**

DSM